Contents

Al-Bakri, G. H., see Mackay, M. W., et al. 91

Allison, M. J., Dawson, K. A., Mayberry, W. R., Foss, J. G.

Oxalobacter formigenes gen. nov., sp. nov.: oxalatedegrading anaerobes that inhabit the gastrointestinal tract 1

Antranikan, G., see Quentmeier, A. 85

Archer, D. B., Powell, G. E.

Dependence of the specific growth rate of methanogenic mutualistic cocultures on the methanogen 133

Argast, M., Beck, C. F.

Tetracycline uptake by susceptible Escherichia coli cells 260

Bartsch, R. G., see Trudinger, P. A., et al. 273

Bask, L., see Väisänen, O., et al. 123

Batra, R., see Dadarwal, K. R., et al. 255

Beck, C. F., see Argast, M. 260

Belkin, S., Jannasch, H. W.

A new extremely thermophilic, sulfur-reducing heterotrophic, marine bacterium 181

Berry, A., Johnson, J. L., Jensen, R. A.

Phenylalanine hydroxylase and isozymes of 3-deoxy-parabin-heptulosonate 7-phosphate synthase in relationship to the phylogenetic position of *Pseudomonas* acidovorans (*Ps.* sp. ATCC 11299a) 32

Bierbaum, G., Sahl, H.-G.

Induction of autolysis of staphylococci by the basic peptide antibiotics Pep 5 and nisin and their influence on the activity of autolytic enzymes 249

Blümel, P., see Reinicke, B., et al. 309

Böck, A., see Pecher, A., et al. 359

Bohlool, B. B., see Broughton, W. J., et al. 14

Bohnert, H. J., see Broughton, W. J., et al. 14

Bothe, H., see Neuer, G., et al. 364

Bowman, M. A., see Potts, M. 51

Boyaval, E., see Boyaval, P., et al. 128

Boyaval, P., Boyaval, E., Desmazeaud, M. J. Survival of *Brevibacterium linens* during nutrient starvation and intracellular changes 128

Braun, V., Günther, H., Neuß, B., Tautz, C. Hemolytic activity of Serratia marcescens 371

Brink, B. ten, see Otto, R., et al. 348

Broughton, W. J., Bohlool, B. B., Shaw, C. H., Bohnert, H. J., Pankhurst, C. E.

Conserved plasmid/chromosome sequences in fast- and slow-growing rhizobia that nodulate the same plant 14

Brown, N. L., see Whitehead, P. R. 70

Campbell, L. L., see Singleton, R., Jr., et al. 195

Chen, Y. P., Glenn, A. R., Dilworth, M. J.
Aromatic metabolism in *Rhizobium trifolii*-catechol 1,2-dioxygenase 225

Condon, S., see Murphy, M. G., et al. 75

Cooper, B. P., Trüper, H. G.

Sulfate activation in *Rhodobacter sulfidophilus* and other species of the Rhodospirillaceae 384

Dadarwal, K. R., Sindhu, S. S., Batra, R. Ecology of Hup* Rhizobium strains of cow pea

Ecology of Hup* Rhizobium strains of cow pea miscellany: native frequency and competence 255

Daniel, R. M., see Patel, B. K. C., et al. 63

Dawson, K. A., see Allison, M. J., et al. 1

Denis, J., see Singleton, R., Jr., et al. 195

Desmazeaud, M. J., see Boyaval, P., et al. 128

Dilworth, M. J., see Chen, Y. P., et al. 225

Dingler, Ch., Oelze, J.

Reversible and irreversible inactivation of cellular nitrogenase upon oxygen stress in *Azotobacter vinelandii* growing in oxygen controlled continuous culture 80

Dingler, Ch., see Kuhla, J., et al. 297

Drews, G., see Garcia, A. F., et al. 239

Dunlap, P. V.

Osmotic control of luminescence and growth in Photobacterium leiognathi from ponyfish light organs 44

Fattom, A., see Oren, A., et al. 138

Foss, J. G., see Allison, M. J., et al. 1

Früh, R., Haas, D., Leisinger, T.

Altered control of glutamate dehydrogenases in ornithine utilization mutants of *Pseudomonas aeruginosa* 170

Fuchs, G., see Holder, U., et al. 229

Fuchs, G., see Rühlemann, M., et al. 399

Fukui, S., see Ueda, M., et al. 29

Fuller, R. C., see Redlinger, T. E. 344

Gad'on, N., see Garcia, A. F., et al. 239

Garcia, A. F., Gad'on, N., Drews, G.

Fusion of proteoliposomes containing the B800-850 light-harvesting complex with membranes of the mutant strain NK3 of *Rhodopseudomonas capsulata* lacking B800-850 239

Gebhardt, N. A., Thauer, R. K., Linder, D.,

Kaulfers, P.-M., Pfennig, N.

Mechanism of acetate oxidation to CO₂ with elemental sulfur in *Desulfuromonas acetoxidans* 392

Giesbrecht, P., Labischinski, H., Wecke, J.

A special morphogenetic wall defect and the subsequent activity of "murosomes" as the very reason for penicillininduced bacteriolysis in staphylococci 315

Giesbrecht, P., see Reinicke, B., et al. 309

Glenn, A. R., see Chen, Y. P., et al. 225

Gotto, J. W., Yoch, D. C.

Regulation of nitrogenase activity by covalent modification in *Chromatium vinosum* 40

Günther, H., see Braun, V., et al. 371

Guerrero, M. G., see Ramos, J. L., et al. 105

Gupta, S. D., Maheshwari, R.

Is organic acid required for nutrition of thermophilic fungi? 164

Haahtela, K., see Väisänen, O., et al. 123

Haas, D., see Früh, R., et al. 170

Häder, D.-P.

Effects of UV-B on motility and photobehavior in the green flagellate, Euglena gracilis 159

Hansen-Hagge, J., Lehmann, V., Seydel, U.,

Lindner, B., Zähringer, U.

Isolation and structural analysis of two lipid A precursors from a KDO deficient mutant of Salmonella typhimurium differing in their hexadecanoic acid content 353

Harms, H., see Koops, H.-P. 214

Hatakka, A. I.

Degradation of veratric acid and other lignin-related aromatic compounds by the white-rot fungus Pycnoporus cinnabarinus 22

Hauser-Gerspach, I., Oelze, J.

Control of the syntheses of bacteriochlorophyll, c- and b-type cytochromes, and coproporphyrin III in Rhodopseudomonas sphaeroides mutant H5 151

Höflacher, B., see Jüttner, F. 337

Holder, U., Schmidt, D.-E., Stupperich, E., Fuchs, G. Autotrophic synthesis of activated acetic acid from two CO2 in Methanobacterium thermoautotrophicum. III. Evidence for common one-carbon precursor pool and the role of corrinoid 229

Igarashi, Y., see Shiba, H., et al. 198

Ince. J. E., Knowles, C. J.

Ethylene formation by cultures of Escherichia coli 209

Jannasch, H. W., see Belkin, S. 181

Jensen, R. A., see Berry, A., et al. 32

Johnson, J. L., see Berry, A., et al. 32

Jones, C. W., see Patchett, R. A., et al. 95

Jüttner, F., Höflacher, B.

Evidence of β -carotene 7,8 (7',8') oxygenase (β-cyclocitral, crocetindial generating) in Microcystis

Kamen, M. D., see Trudinger, P. A., et al. 273

Kantengwa, S., Oiha, M.

Role of glutamine synthetase in the initiation of sporulation in Bacillus polymyxa 204

Kari, K., see Väisänen, O., et al. 123

Kaulfers, P.-M., see Gebhardt, N. A., et al. 392

Kawasumi, T., see Shiba, H., et al. 198

Kenealy, W. R., Waselefsky, D. M.

Studies on the substrate range of Clostridium kluyveri; the use of propanol and succinate 187

Kerby, N. W., Rowell, P., Stewart, W. D. P. Ethylenediamine uptake and metabolism in the cyanobacterium Anabaena variabilis 244

Klont, B., see Otto, R., et al. 348

Knowles, C. J., see Ince, J. E. 209

Kodama, T., see Shiba, H., et al. 198

König, H., Semmler, R., Lerp, C., Winter, J. Evidence for the occurrence of autolytic enzymes in

Methanobacterium wolfei 177 Konings, W. N., see Otto, R., et al. 348

Koops, H.-P., Harms, H.

Deoxyribonucleic acid homologies among 96 strains of ammonia-oxidizing bacteria 214

Kreutz, W., see Welte, W. 325

Kronenberg, A., see Neuer, G., et al. 364

Kubicek, C. P., see Ma, H., et al. 266

Kuhla, J., Dingler, Ch., Oelze, J.

Production of extracellular nitrogen-containing components by Azotobacter vinelandii fixing dinitrogen in oxygen-controlled continuous culture 297

Kundu, B., Nicholas, D. J. D.

Denitrification in Rhodopseudomonas sphaeroides f. denitrificans 57

Labischinski, H., see Reinicke, B., et al. 309

Labischinski, H., see Giesbrecht, P., et al. 315

Laczkó, I.

Comparison of Photosystem-I and Photosystem-II activities of spheroplasts from normal and photobleached Anabaena cylindrica 112

Lehmann, V., see Hansen-Hagge, J., et al. 353

Leisinger, T., see Früh, R., et al. 170

Lerp, C., see König, H., et al. 177

Linder, D., see Gebhardt, N. A., et al. 392

Lindner, B., see Hansen-Hagge, E., et al. 353

Lüderitz, O., see Russa, R., et al. 284

Ma, H., Kubicek, C. P., Röhr, M.

Metabolic effects of manganese deficiency in Aspergillus niger: evidence for increased protein degradation 266

Mackay, M. W., Al-Bakri, G. H., Moseley, B. E. B. The plasmids of Deinococcus spp. and the cloning and restriction mapping of the D. radiophilus plasmid pUE1

Madueño, F., see Ramos, J. L., et al. 105

Maheshwari, R., see Gupta, S. D. 164

Mayberry, W. R., see Allison, M. J., et al. 1

Mayer, H., see Tharanathan, R. N., et al. 279

Meyer, M., see Schlegel, H. G., et al. 377

Meyer, T. E., see Trudinger, P. A., et al. 273

Miller, T. L., Wolin, M. J.

Methanosphaera stadtmaniae gen. nov., sp. nov.: a species that forms methane by reducing methanol with hydrogen 116

Minoda, Y., see Shiba, H., et al. 198

Modi, M., Shah, K. S., Modi, V. V. Isolation and characterisation of catechol-like siderophore from cowpea Rhizobium RA-1 156

Modi, V. V., see Modi, M., et al. 156

Morgan, H. W., see Patel, B. K. C., et al. 63

Moseley, B. E. B., see Mackay, M. W., et al. 91

Murphy, M. G., O'Connor, L., Walsh, D., Condon, S. Oxygen dependent lactate utilization by *Lactobacillus* plantarum 75

Nagata, S., see Ohshima, J., et al. 407

Neuer, G., Kronenberg, A., Bothe, H.

Denitrification and nitrogen fixation by Azospirillum.

III. Properties of a wheat-Azospirillum association 364

Neuß, B., see Braun, V., et al. 371

Nicholas, D. J. D., see Kundu, B. 57

Nitschmann, W. H., Peschek, G. A.

Modes of proton translocation across the cell membrane
of respiring cyanobacteria 330

O'Connor, L., see Murphy, M. G., et al. 75

Oelze, J., see Dingler, Ch. 80

Oelze, J., see Hauser-Gerspach, I. 151

Oelze, J., see Kuhla, J., et al. 297

Ohshima, J., Nagata, S., Soda, K.
Purification and characterization of thermostable leucine
dehydrogenase from *Bacillus stearothermophilus* 407

Ojha, M., see Kantengwa, S. 204

Oremland, R. S., see Smith, R. L., et al. 8

Oren, A., Fattom, A., Padan, E., Tietz, A.
Unsaturated fatty acid composition and biosynthesis in
Oscillatoria limnetica and other cyanobacteria 138

Otto, R., Vije, J., Brink, B. ten, Klont, B., Konings, W. N.

Energy metabolism in *Streptococcus cremoris* during lactose starvation 348

Padan, E., see Oren, A., et al. 138

Pankhurst, C. E., see Broughton, W. J., et al. 14

Patchett, R. A., Quilter, J. A., Jones, C. W.
Energy conservation in whole cells of the methylotrophic bacterium *Methylophilus methylotrophus* 95

Patel, B. K. C., Morgan, H. W., Daniel, R. M.

Fervidobacterium nodosum gen. nov. and spec. nov., a
new chemoorganotrophic, caldoactive, anaerobic
bacterium 63

Pecher, A., Zinoni, F., Böck, A.
The seleno-polypeptide of formic dehydrogenase (formate hydrogen-lyase linked) from *Escherichia coli*: genetic analysis 359

Peschek, G. A., see Nitschmann, W. H. 330

Pfennig, N., see Gebhardt, N. A., et al. 392

Potts, M., Bowman, M. A. Sensitivity of *Nostoc commune* UTEX 584 (Cyanobacteria) to water stress 51

Powell, G. E., see Archer, D. B. 133

Quentmeier, A., Antranikian, G.
Characterization of citrate lyase from Clostridium sporosphaeroides 85

Quilter, J. A., see Patchett, R. A., et al. 95

Ramos, J. L., Madueño, F., Guerrero, M. G. Regulation of nitrogenase levels in *Anabaena* sp. ATCC 33047 and other filamentous cyanobacteria 105 Rao, A. S.

Regulation of lysine and dipicolinic acid biosynthesis in Bacillus brevis ATCC 10068: significance of derepression of the enzymes during the change from vegetative growth to sporulation 143

Redlinger, T. E., Fuller, R. C.

Protein processing as a regulatory mechanism in the synthesis of the photosynthetic antenna in *Chloroflexus* 344

Reinicke, B., Blümel, P., Labischinski, H., Giesbrecht, P.

Neither an enhancement of autolytic wall degradation nor an inhibition of the incorporation of cell wall material are pre-requisites for penicillin-induced bacteriolysis in staphylococci 309

Rietschel, E. Th., see Russa, R., et al. 284

Röhr, M., see Ma, H., et al. 266

Rowell, P., see Kerby, N. W., et al. 244

Rühlemann, M., Ziegler, K., Stupperich, E., Fuchs, G. Detection of acetyl coenzyme A as an early CO₂ assimilation intermediate in *Methanobacterium* 399

Russa, R., Lüderitz, O., Rietschel, E. Th. Structural analyses of lipid A from lipopolysaccharides of nodulating and non-nodulating *Rhizobium trifolii* 284

Sahl, H.-G., see Bierbaum, G. 249

Salimath, P. V., see Tharanathan, R. N., et al. 279

Salkinoja-Salonen, M., see Väisänen, O., et al. 123

Schlegel, H. G., Meyer, M.
Isolation of hydrogenase regulatory mutants of hydrogenoxidizing bacteria by a colony-screening method 377

Schmidt, D.-E., see Holder, U., et al. 229

Semmler, R., see König, H., et al. 177

Seydel, U., see Hansen-Hagge, J., et al. 353

Shah, K. S., see Modi, M., et al. 156

Sharak Genthner, B. R., Wall, J. D.
Ammonium uptake in *Rhodopseudomonas capsulata* 219

Ammonium uptake in Amodopseddomonas capsulata 215

Shaw, C. H., see Broughton, W. J., et al. 14

Shiba, H., Kawasumi, T., Igarashi, Y., Kodama, T., Minoda, Y.

The CO_2 assimilation via the reductive tricarboxylic acid cycle in an obligately autotrophic, aerobic hydrogenoxidizing bacterium, *Hydrogenobacter thermophilus* 198

Sindhu, S. S., see Dadarwal, K. R., et al. 255

Singleton, R., Jr., Denis, J., Campbell, L. L. Whole-cell antigens of members of the sulfate-reducing genus *Desulfovibrio* 195

Smith, R. L., Strohmaier, F. E., Oremland, R. S. Isolation of anaerobic oxalate-degrading bacteria from freshwater lake sediments 8

Soda, K., see Ohshima, J., et al. 407

Staehelin, L. A., see Varga, A. R. 290

Stewart, W. D. P., see Kerby, N. W., et al. 244

Strohmaier, F. E., see Smith, R. L., et al. 8

Stupperich, E., see Holder, U., et al. 229

Stupperich, E., see Rühlemann, M., et al. 399

Sundman, V., see Väisänen, O., et al. 123

Tanaka, A., see Ueda, M., et al. 29

Tauschel, H.-D.

ATPase and cytochrome oxidase activities at the polar organelle in swarm cells of *Sphaerotilus natans*: an ultrastructural study 303

Tautz, C., see Braun, V., et al. 371

Tharanathan, R. N., Salimath, P. V., Weckesser, J., Mayer, H.

The structure of lipid A from the lipopolysaccharide of Rhodopseudomonas gelatinosa 29/1 279

Thauer, R. K., see Gebhardt, N. A., et al. 392

Tietz, A., see Oren, A., et al. 138

Trudinger, P. A., Meyer, T. E., Bartsch, R. G., Kamen, M. D.

The major soluble cytochromes of the obligately aerobic sulfur bacterium, *Thiobacillus neapolitanus* 273

Trüper, H. G., see Cooper, B. P. 384

Ueda, M., Tanaka, A., Fukui, S.

Enhancement of carnitine acetyltransferase synthesis in alkane-grown cells and propionate-grown cells of Candida tropicalis 29

Väisänen, O., Haahtela, K., Bask, L., Kari, K., Salkinoja-Salonen, M., Sundman, V.

Diversity of nif gene location and nitrogen fixation among root-associated Enterobacter and Klebsiella strains 123

Varga, A. R., Staehelin, L. A.

Membrane adhesion in photosynthetic bacterial membranes. Light harvesting complex I (LHI) appears to be the main adhesion factor 290

Vije, J., see Otto, R., et al. 348

Wall, J. D., see Sharak Genthner, B. R. 219

Walsh, D., see Murphy, M. G., et al. 75

Waselefsky, D. M., see Kenealy, W. R. 187

Wecke, J., see Giesbrecht, P., et al. 315

Weckesser, J., see Tharanathan, R. N., et al. 279

Welte, W., Kreutz, W.

Structure of thylakoids in cells of Rhodopseudomonas viridis as influenced by growth conditions 325

Whitehead, P. R., Brown, N. L.

A simple and rapid method for screening bacteria for type II restriction endonucleases: enzymes in Aphanothece halophytica 70

Winter, J., see König, H., et al. 177

Wolin, M. J., see Miller, T. L. 116

Yoch, D. C., see Gotto, J. W. 40

Zähringer, U., see Hansen-Hagge, J., et al. 353

Ziegler, K., see Rühlemann, M., et al. 399

Zinoni, F., see Pecher, A., et al. 359

